

## Features

- Available in uni/bi-directional polarity.
- Low forward voltage drop & Low leakage current.
- High surge capability.
- Junction passivation optimized design passivated anisotropic rectifier technology.
- T<sub>J</sub> = 175 °C capability suitable for high reliability and automotive requirement.
- Meets ISO7637-2 surge specification (varied by test condition).
- Compliant to ROHS Directive 2002/95/EC and in accordance to WEEE 2002/96/EC.



**DO-218AB**

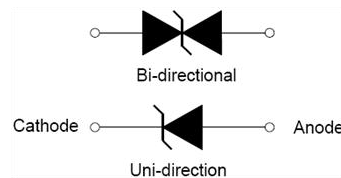


## Mechanical Characteristics

- Molding compound meets UL 94 V-0 flammability rating Base P/NHE3-RoHS compliant
- Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD 22-B102 HE3 suffix meets JESD 201 class 2 whisker test
- Standard Packaging: EIA RS-481
- Polarity: Heatsink is anode for uni polarity

## Applications

- I/O Interface
- AC/DC Power supply



## Absolute Maximum Ratings (T<sub>A</sub>=25°C, RH=45%-75%, unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak pulse power dissipation on 10/1000us waveform	P <sub>pp</sub>	4600	Watts
Peak pulse power dissipation on 10/10000us waveform		3600	Watts
Peak pulse current with 10/1000us waveform	I <sub>pp</sub>	See last table	Amps
Power dissipation on infinite heat Sink at T <sub>C</sub> =25°C	P <sub>D</sub>	6.0	Watts
Peak forward surge current, 8.3ms single half sine-wave	I <sub>FSM</sub>	600	Amps
Operating Junction and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150	°C
Typical thermal resistance, junction to case	R <sub>θJC</sub>	0.9	°C/Watt

## Electrical Characteristics

Part Number	V <sub>R</sub>	I <sub>R</sub> @V <sub>R</sub>		V <sub>BR</sub> @ I <sub>T</sub>		I <sub>T</sub>	V <sub>C</sub> @I <sub>pp</sub>	I <sub>pp</sub>
		μA@25°C	μA@175°C	min(V)	max (V)			
SM6S10A	10.0	15	250	11.1	12.3	5	17.0	271
SM6S11A	11.0	10	150	12.2	13.5	5	18.2	253
SM6S12A	12.0	10	150	13.3	14.7	5	19.9	231
SM6S13A	13.0	10	150	14.4	15.9	5	21.5	214
SM6S14A	14.0	10	150	15.6	17.2	5	23.2	198
SM6S15A	15.0	10	150	16.7	18.5	5	24.4	189
SM6S16A	16.0	10	150	17.8	19.7	5	26.0	177
SM6S17A	17.0	10	150	18.9	20.9	5	27.6	167
SM6S18A	18.0	10	150	20.0	22.1	5	29.2	158
SM6S20A	20.0	10	150	22.2	24.5	5	32.4	142
SM6S22A	22.0	10	150	24.4	26.9	5	35.5	130
SM6S24A	24.0	10	150	26.7	29.5	5	38.9	118
SM6S26A	26.0	10	150	28.9	31.9	5	42.1	109
SM6S28A	28.0	10	150	31.1	34.4	5	45.4	101
SM6S30A	30.0	10	150	33.3	36.8	5	48.4	95
SM6S33A	33.0	10	150	36.7	40.6	5	53.3	86
SM6S36A	36.0	10	150	40.0	44.2	5	58.1	79

**Note:**

① For all types maximum VF = 2.0 V at IF = 100 A measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum.

②. Surge waveform: 10/1000μs

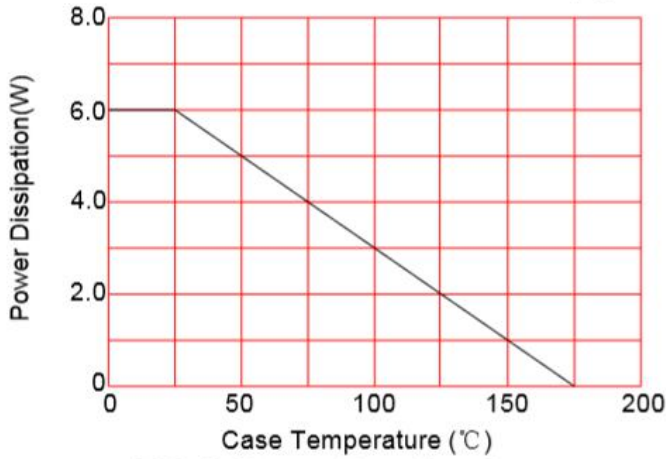
V<sub>R</sub> : Stand-off Voltage -- Maximum voltage that can be applied  
V<sub>BR</sub>: Breakdown Voltage

V<sub>C</sub>: Clamping Voltage -- Peak voltage measured across the suppressor at a specified I<sub>pp</sub>

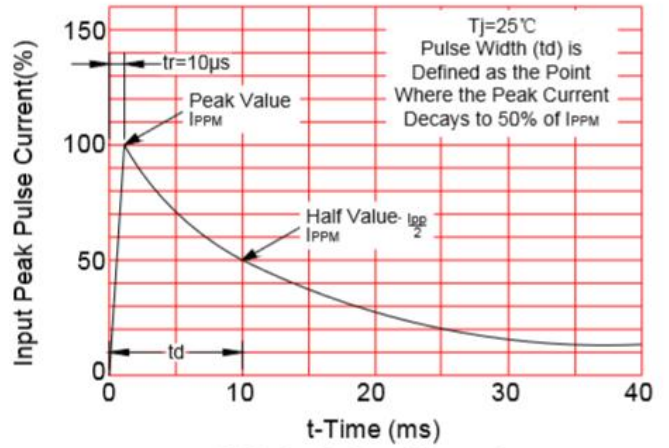
I<sub>R</sub>: Reverse Leakage Current

I<sub>T</sub>: Test current

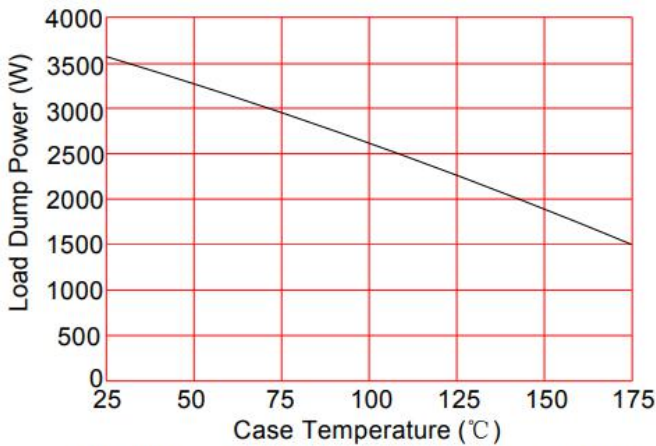
Typical Characteristics



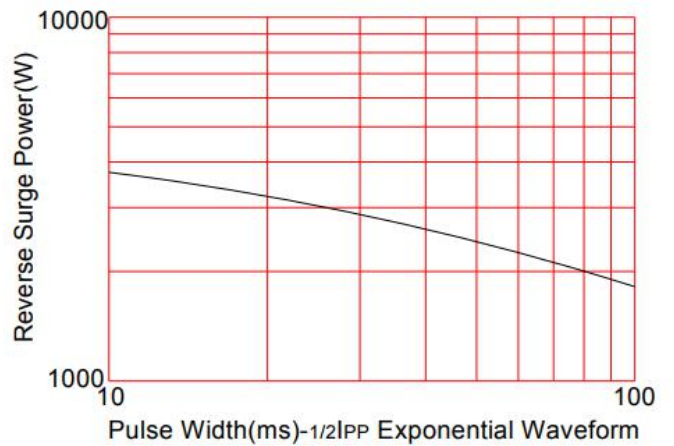
**FIG.1: Power Derating Curve**



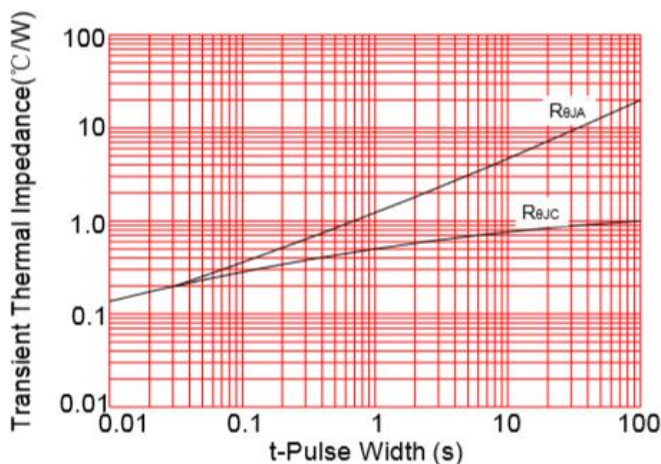
**FIG.2: Pulse Waveform**



**FIG.3: Load Dump Power Characteristics (10ms Exponential Wavafom)**



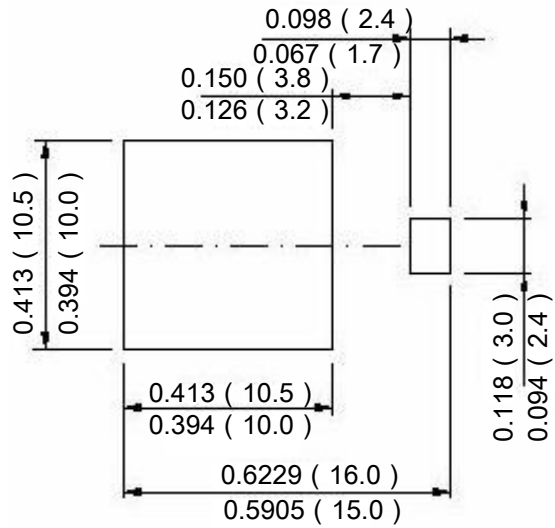
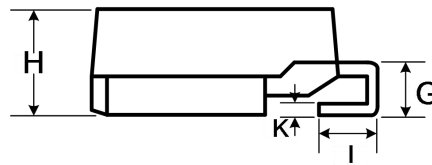
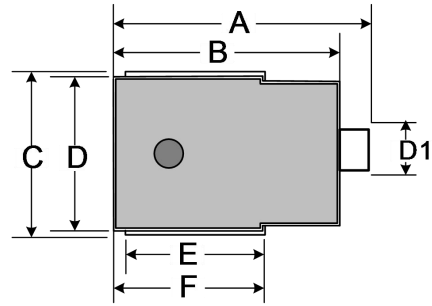
**FIG.4: Reverse Power Capability**



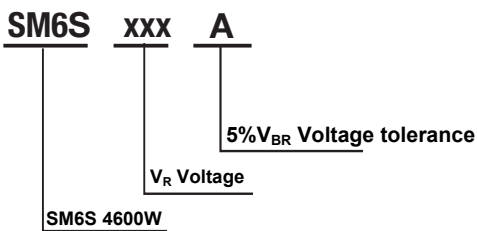
**FIG.5: Typical Transient Thermal Impedance**

### Outline Drawing – (DO-218AB)

Ref. (mm)	Millimeters	
	Min.	Max.
A	15.0	16.0
B	13.3	13.7
C	9.5	10.5
D	8.3	8.7
D1	2.4	3.0
E	8.7	9.3
F	9.7	10.3
G	2.5	3.5
H	4.7	5.1
I	1.5	2.5
K	0.5	0.7



### Part Numbering System



### Package Information

Out line	Reel (pcs)	Per carton (pcs)	Packing Option
Taping	750	3000	box